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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,593	09/16/2003	Michael A. Centanni	ST8012US	3283
22203	7590	03/09/2006	EXAMINER	
KUSNER & JAFFE HIGHLAND PLACE SUITE 310 6151 WILSON MILLS ROAD HIGHLAND HEIGHTS, OH 44143			MCKANE, ELIZABETH L	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,593

Applicant(s)

CENTANNI ET AL.

Examiner

Leigh McKane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-9, 16, 19-22, 24-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21, 24-29 and 31 is/are allowed.
- 6) ☒ Claim(s) 3-9, 16, 19, 20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. The finality of the previous office action is withdrawn and prosecution is reopened.

Claim Objections

2. Claims 3, 7, 16, 19, 20, and 31 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

In claims 3, 7, 16, and 31, the parenthetical expression (PbO₂) is improper as parentheses are appropriate within a claim only for the designation of reference numerals.

Claims 19 and 20 attempt to limit the hydrogen peroxide of claim 16. However, claim 16 is an apparatus claim, not a method claim. The hydrogen peroxide is recited only in the context of an intended use of the device – it is not a part of the structure of the sensor. Thus, any attempt to further limit the hydrogen peroxide is improper and fails to further limit the structure of the sensor apparatus.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 3-5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Taguchi et al. (abstract of "Analysis of discharge/charge reaction of PbO₂ thin film electrode by using electrochemical QCM technique").

Taguchi et al. teaches a piezoelectric quartz crystal microbalance having a thin film of PbO₂ thereon. In the absence of evidence to the contrary, the Examiner takes the position that, as the structure of the Taguchi et al. device is identical to that claimed, it is inherently capable of detecting hydrogen peroxide through catalytic reaction.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. in view of view of Schönfeld et al. (U.S. Patent No. 5,958,787).

Taguchi et al. fails to teach the resonant frequency of quartz. Regardless, Schönfeld et al. discloses that piezoelectric crystals generally have a fundamental oscillation of 0.1 to 30 MHz. Therefore, it would have been obvious that the quartz of Taguchi et al. would have fallen within this range.

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7. Claims 16, 19, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. in view of Larue (US 5,705,399).

Taguchi et al. teaches a piezoelectric quartz crystal microbalance having a thin film of PbO_2 thereon. In the absence of evidence to the contrary, the Examiner takes the position that, as the structure of the Taguchi et al. device is identical to that claimed, it is inherently capable of detecting hydrogen peroxide through catalytic reaction. Although the abstract teaches that the piezoelectric is a quartz microbalance, it is unclear where the electrodes are placed.

Larue discloses the known configuration of quartz crystal microbalances, wherein a quartz crystal 50 has disk-shaped electrodes 52,54 on crystal surfaces 56,58. See col.1, line 57 to

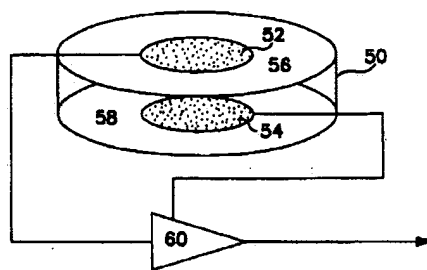


FIG. 1A

col.2, line 9. Thus, it is deemed obvious that the quartz microbalance of Taguchi et al. would have had first and second electrodes on opposite surfaces of the quartz crystal, as this is how a quartz crystal microbalances operate.

Allowable Subject Matter

8. Claims 21, 24-29, and 31 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter and the reasons for allowance: The prior art of record fails to teach a method of determining the presence of a hydrogen peroxide sterilizing using a piezoelectric element having a lead dioxide coating (claim 21). Moreover, the prior art of record fails to teach or suggest a system for

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moving a sterilant through a space wherein a piezoelectric device that supports lead dioxide interacts with the sterilant in the system and a controller uses the frequency exhibited by the piezoelectric device to monitor concentration of the sterilant(claim 31).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

10. Applicant's arguments with respect to claims 3-9, 16, 19, 20, and 22 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Thursday (5:30 am-2:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on 571-272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leigh McKane
Primary Examiner
Art Unit 1744

elm
8 March 2006